

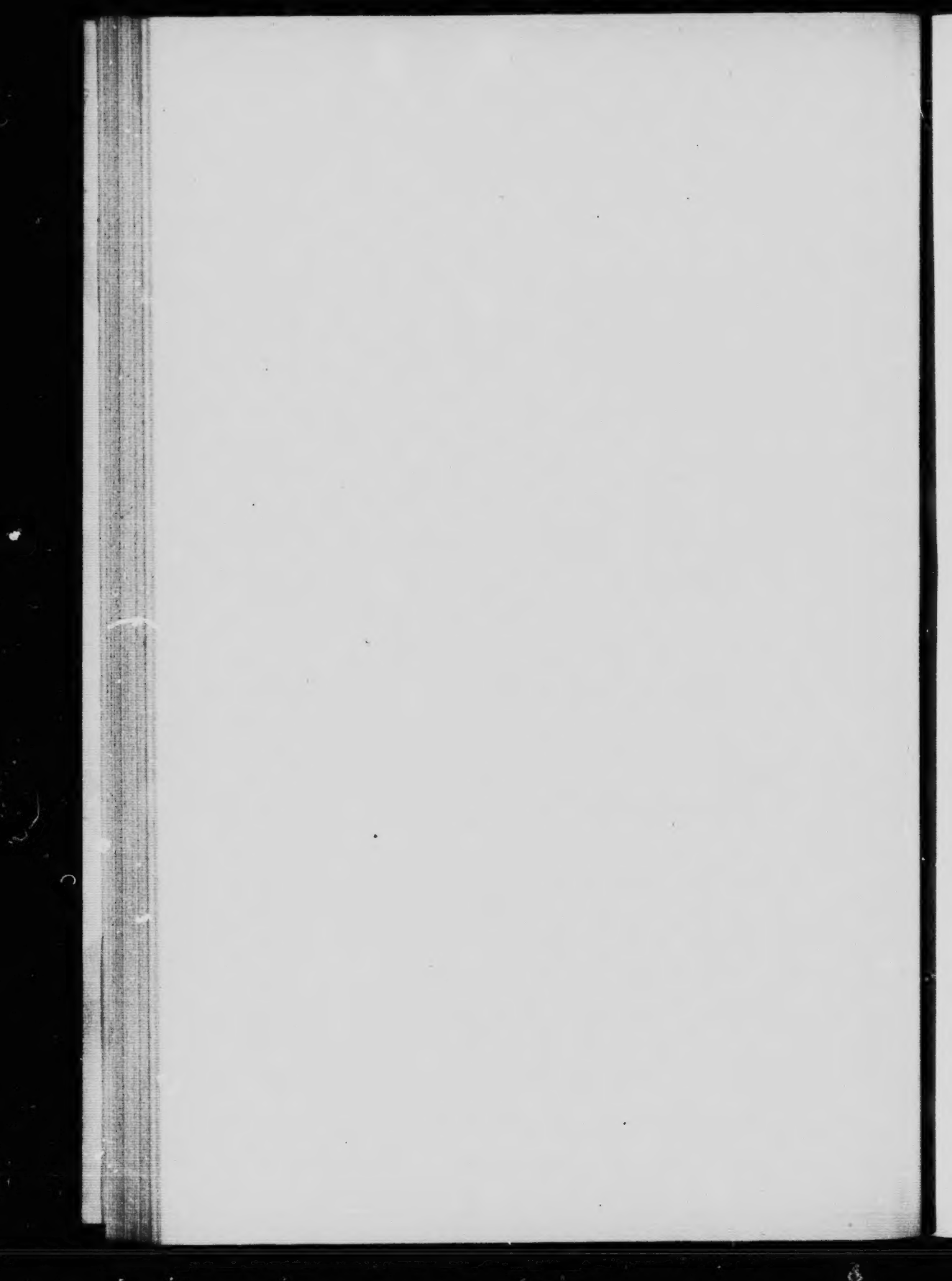
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LABORATORY
OF THE
INLAND REVENUE DEPARTMENT

OTTAWA, CANADA.

BULLETIN No. 331,

TURPENTINE, AS A PAINT MATERIAL

NOTES AND COMMENTS.

Under this heading, as occasion arises, the Bulletins issued by this Department will contain, as an appendix, such comment as may seem necessary or advisable upon matters relating to the work of the Department in connection with the administration of the Adulteration Act, the Fertilizers Act, the Feeding Stuffs Act or the Proprietary Medicines Act.

It frequently happens that correspondents ask information regarding the above Acts, of such a nature that the matter in question possesses general interest, and comment upon it would prove acceptable and useful to others than the immediate questioner. In such cases the reply may find a place in these columns. For convenience of reference these notes will be numbered in series.

LABORATORY
OF THE
INLAND REVENUE DEPARTMENT
OTTAWA, CANADA.

BULLETIN No. 331

Turpentine, as a Paint Material

OTTAWA, January 8, 1916.

J. U. VINCENT, Esq.,
Deputy Minister of Inland Revenue,

SIR,—By an Order in Council of June 6, 1912, Turpentine for uses in the Arts, was defined as follows:—

PRIVY COUNCIL, CANADA.

AT THE GOVERNMENT HOUSE, OTTAWA.

THURSDAY, the 6th day of June, 1912.

PRESENT

HIS ROYAL HIGHNESS THE GOVERNOR GENERAL IN COUNCIL :

His Royal Highness the Governor General in Council, in virtue of the provisions of Section 27 of Chapter 133, Revised Statutes of Canada, 1906, "An Act respecting the Adulteration of Food and other Articles," is pleased to order as follows:—

Turpentine is hereby added to Schedule 4 of the above described Act and the definition thereof shall be as hereinafter set forth:—

STANDARDS FOR TURPENTINE:

I. When turpentine is sold as a drug, for medicinal purposes or to the order of a physician, it shall meet pharmacopoeal requirements as provided by section 7 of the said Act.

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II. When turpentine is sold under any other conditions than for purposes of medicine, as above, it shall meet the following requirements:—

- (1) It shall be entirely free from mineral oil.
- (2) Unless sold as wood turpentine, it shall absorb not less than 340 times its weight of iodine (HUBL Solution and Method). If sold as wood turpentine it shall absorb not less than 240 times its weight of iodine by same method.
- (3) The undissolved (unpolymerized) residue on treatment of 10cc with 40cc of a sulphuric acid containing 20 per cent of the fuming acid, shall not exceed 10 per cent by volume of the sample.
- (4) The refractive index of this residue shall be not less than 1.4950 at 20°C.
- (5) The refractive index of the sample at 20°C. shall lie between 1.4680 and 1.4730.
- (6) The specific gravity of the sample at 20°C. shall not be less than 0.860.
- (7) The initial boiling point shall not be lower than 150°C. under ordinary atmospheric pressure.
- (8) At least 75 per cent by volume shall distil below 160°C.
- (9) The residue on evaporation over a steam bath shall not exceed two (2) per cent.

RODOLPHE BOUDREAU,
Clerk of the Privy Council.

No systematic inspection of the article, as thus defined, has been made since the date of the Order in Council as above. An extensive study of the subject was made in 1910, and the results are published in Bulletin No. 211. At that time the only legal standards existent had regard to turpentine (Oil of Turpentine) as a drug; and although many of the samples then reported failed to meet the requirements as given in the British Pharmacopoeia, it was considered inadvisable to apply these very stringent constants to turpentine sold for purposes other than medicinal.

The present inspection embraces careful and, in most cases exhaustive work upon two hundred and twelve (212) samples which were purchased throughout the Dominion in July, August and September of last year; and were specially obtained from dealers in paint materials. They are therefore to be judged by the standards fixed for turpentine supplied for other uses than as a drug. Fifty (50) of these samples fail to meet the above requirements and must be described as adulterated under the Act. (*See note on page 5.*)

A very large number of complaints from users of turpentine have been received in recent years; and the results of this inspection indicate that ample ground for complaint exists. The chief adulterant is found to be a petroleum product; but rosin oil is also used for the purpose.

Wood turpentine, that is the product obtained by distillation from resinous woods, as distinguished from that obtained in the regular way from the gum of various species of pine, cannot be regarded as an adulteration, provided that it is properly described when offered for sale. It possesses in a high degree, the desirable properties of true turpentine, but is not, in every respect, its equal for paint purposes. Samples indicat-

ing (by their lower iodine number, and other characters) admixture with wood turpentine, have not been judged as adulterated in this report. It must be noted, however, that vendors are not as careful as they should be in properly distinguishing these articles from true (gum) turpentine.

I would respectfully recommend publication of this report as Bulletin No. 331.

I have the honour to be, Sir,

Your obedient servant,

A. MCGILL,
Chief Analyst.

OTTAWA, March 22, 1916.

NOTE.—The term adulteration, as used here, must be understood to mean that the sample does not meet the standards for turpentine fixed by Order in Council of June 6, 1912.

Section 21 of the Adulteration Act, as this appears in the Revised Statutes of 1906, has been introduced into this Act from an older Act of 1894, entitled "An Act in restraint of Fraudulent Sale or Marking."

Section 21, is as follows:—

"No person shall mark, brand or label any article or any package containing any article mentioned in the first column of the fourth schedule to this Act, with the word Pure, Genuine, or any word equivalent thereto, or sell, or offer or expose for sale, any such article or package so marked, branded, stamped or labelled, unless such article or the contents of such package are pure within the meaning of the second column of the said schedule."

It will be noted that, unless the article has been sold as *Pure* or *Genuine*, the penalties imposed by Section 33 (Section 3 of the Act in restraint of Fraudulent Marking) do not apply.

The samples of turpentine herein reported were simply sold as turpentine, and not as pure turpentine or genuine turpentine. It is reasonable to interpret the word turpentine, used simply, as meaning pure or genuine turpentine; but the technical difficulty introduced by the peculiar wording of section 21, makes procedure uncertain, and perhaps inadvisable until such time as an amendment of the Act is secured.

BULLETIN No. 331—TURPENTINE.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cont.	Name and Address of Manufacturer or Furnisher as given by the Vendor.		Inspector's Report. (Is not an expression of opinion.)
				Quantity.	Manufacturer.	Furnisher.	

DISTRICT OF NOVA SCOTIA—R. J. WAUGH, INSPECTOR.

1915.									
Sept. 28	Turpentine..	64256	Wm. Stairs Son & Morrow, 14 pt. 15 Halifax.		Unknown	Carrillo Patterson Co., Halifax.			
" 28	"	64257	Wm. Robertson & Son, Halifax. 14 " 15		Georgia Turpentine Co.	J. C. Calder, Agent, Halifax.			
" 28	"	64258	A. M. Bell & Co., Halifax ... 14 " 15		" Montreal	Mfr.			
" 28	"	64259	Jas. Simmonds, Ltd., Halifax ... 14 " 15		"	J. C. Calder, Agent, Halifax.			
" 28	"	64260	Geo. E. Smith & Co., Halifax.... 14 " 15		Unknown	"			

DISTRICT OF NOVA SCOTIA—W. A. PETIPAS, TEMPORARY INSPECTOR.

Aug. 13	Turpentine..	69841	J. S. Fraser, New Glasgow... 3 pts 45		Unknown	DeB. Carrille, St. John....			
" 13	"	69842	Thompson & Sutherland, New Glasgow. 3 " 38		Imperial Oil Co., Halifax.	Mfr.			
" 13	"	69843	Bent & Cahoon, New Glasgow... 3 " 37		Unknown	DeB. Carrille, St. John....			

DISTRICT OF CAPE BRETON—E. F. MCKEEN, INSPECTOR.

July 27	Turpentine..	63814	C. P. Moore, Sydney.....	3 pta.	45	Georgia Turpentine Co., Montreal.	
" 27	"	63816	Thompson Sutherland Co., Sydney.	3 pta.	45	Imperial Oil Co.	

DISTRICT OF PRINCE EDWARD ISLAND—WM. A. WEEKS, INSPECTOR.

July 15	Turpentine..	60363	Prowse & Son, Murray Harbour, P.E.I.	3 pta.	35		Rogers Hardware Co., Charlottetown.
" 17	"	60364	S. W. Crabbes, Charlottetown, P.E.I.	3 "	30	Imperial Oil Co., Halifax.	
" 17	"	60365	Fennell & Chandler, Charlotte- town, P.E.I.	3 "	35		DeB. Carritte, St. John.
" 19	"	60366	Rogers Hardware Co., Char- lottetown, P.E.I.	3 "	35		"
" 19	"	60367	P. J. Berriault, Dundas, Lot 31, P.E.I.	3 "	35		Rogers Hardware Co., Charlottetown.
" 23	"	60368	Russell Con, Morell, P.E.I.	3 "	35	Can. Paint Co., Montreal.	
" 23	"	60369	H. H. Con, Morell, P.E.I.	3 "	35		Rogers Hardware Co., Charlottetown.
" 24	"	60370	Mathew, McLear, St. John's, P.E.I.	3 "	35	Unknown	
" 24	"	60371	J. J. Hughes, Co., Ltd., Souris, P.E.I.	3 "	35	A. M. Bell & Co., Halifax	
" 26	"	60372	D. F. Keays, Bayfield, P.E.I.	3 "	45		Stern Bros., Ltd., Souris, P.E.I.

DISTRICT OF NEW BRUNSWICK—JOHN C. FERGUSON, INSPECTOR.

July 15	Turpentine..	66151	Nat. Drug & Chem. Co., St. John.	3 pta.	60		Prov. Chem. Fert. Co., St. John.
Aug. 2	"	66152	Robertson, Foster & Smith, St. John.	3 "	40		DeB. Carritte, St. John.
" 3	"	66153	F. A. Young, St. John.	3 "	40		Imperial Oil Co., St. John.
" 3	"	66154	T. McAvity & Sons, St. John.	3 "	40		DeB. Carritte.
" 4	"	66155	W. H. Thorne & Co., Ltd., St. John.	3 "	45		
" 4	"	66156	H. L. & J. T. McJowan, St. John.	3 "	40		Wood Bros., Ltd.
" 11	"	66157	The DeWolf Hardware Co., St. Stephen.	3 "	45		DeB. Carritte, St. John.

BULLETIN No. 331—TURPENTINE.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	Inspector's Report. (is not an expression of opinion.)
				Quantity.	Cents.		
						Manufacturer.	Furnisher.

DISTRICT OF NEW BRUNSWICK—JOHN C. FERGUSON, INSPECTOR.—Concluded.

1915.							
Aug. 17	Turpentine.	66158	R. Chestnut & Son, Fredericton	3 pts.	45		Apothecary's Hall Co., Waterbury, Conn., U.S.A.
" 24	"	66159	Sussex Mercantile Co., Sussex.	3 "	45		Imperial Oil Co., St. John.
" 26	"	66160	Santer & Co., Moncton.	3 "	30		DeB. Carritte, St. John.

DISTRICT OF QUEBEC PROVINCE—J. AUDET, O. BROCHU, N. CADIEUX AND S. GENDREAU, TEMPORARY INSPECTORS.

July 7	Terebenthine.	3603	Dorchester Lumber, Ste. Machie.	3 pts.	21	Brit. Amer. Oil.	
" 12	"	3610	J. L. Audet, St. Edward.	3 "	25	Dorchester Lumber, Ste. Malachie.	
" 13	"	3615	J. A. Cloutier, St. Odilon.	3 "	25	Herman Young, Quebec.	
" 16	"	3624	P. K. Prevot, Ste. Rose.	3 "	15	"	
" 17	"	3627	Gariépie, St. Prosper.	3 "	25	Framingham, Montreal.	
" 20	"	3584	Antoine Picard, St. Raphael.	1 pt.	20	Herman Young, Quebec.	
" 20	"	3588	Antoine Labrecque, St. Raphael.	1 "	25	"	
" 20	"	3593	L. A. Roy, St. Valier.	1 "	25	Jos. Lemieux, Quebec.	

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BULLETIN No. 331—TURPENTINE.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cwt.		Name and Address of Manufacturer or Furnisher as given by the Vendor.		Inspector's Report. (Is not an expression of opinion.)
				Quantity.	Cents.	Manufacturer.	Furnisher.	
1915.								
July 8	Turpentine.	69124	S. Costello, Joliette.	3 Pts.	35	R. L. Jamieson, Montreal.		
" 7	"	69125	Edm. Wodon, Joliette.	3 "	38	Ramsay Sons, Ltd., Montreal.		
" 9	"	69126	Monahan Bros., St. Lin.	3 "	40	Imperial Oil Co., Montreal.		
" 9	"	69127	Alfred Henri, St. Lin.	3 "	45	Can. Paint Co., Montreal.		
" 10	"	69128	R. Charbonneau, St. Esprit.	3 "	45	"		
" 10	"	69129	George Beaudoin, St. Esprit.	3 "	45	Can. Paint Co., Montreal.		
" 9	"	69130	W. Gendreau, St. Roch Achigan.	3 "	40	Cuillard Auguste Montreal.		
" 12	"	69131	L. Provost, L'Epiphanie.	3 "	30	Ramsay's Sons, Montreal.		
" 12	"	69132	T. A. Mercier, L'Epiphanie.	3 "	40	L. H. Hebert, Montreal.		
" 13	"	69133	L. Pauré, L'Assomption.	3 "	60	Can. Paint Co., Montreal.	Bedard & Cie., L'Assomption.	
Aug. 7	"	69184	S. Costello, Joliette.	3 "	38	R. E. Jamieson, Montreal.		

DISTRICT OF THREE RIVERS—DR. V. P. LAVALLÉE, INSPECTOR.

DISTRICT OF EASTERN TOWNSHIPS J. J. COSTIGAN, ACTING INSPECTOR.

Aug. 11	Turpentine..	63060	W. Bourque, Sherbrooke.....	3	Pa.	35			Sold as Georgia Turpentine.....
" 11	"	63061	N. LaReque, Sherbrooke.....	3	"	40			"
" 11	"	63062	Jos. Lacombe & Fils, Sherbrooke.....	3	"	40	Brit. Amer. Oil Co., Ltd.		"
" 17	"	63063	Phoenix & Girard, Granby.....	3	"	25			"
" 11	"	63064	Coderre & Fils, Inc., Sherbrooke.....	3	"	45	Standard Oil Corporation.		"
" 12	"	63065	J. R. Dionne, Coaticook.....	3	3	40			"
" 13	"	63066	A. Seguin, St. Hyacinthe.....	3	"	38	Brit. Amer. Oil Co., Ltd.		"
" 13	"	63067	Beunoy & Laline, St. Hyacinthe.....	3	"	38	Can. Paint Co., Ltd.		"
" 13	"	63068	J. B. St. Pierre, St. Hyacinthe.....	3	"	37	Imperial Oil Co.		"
" 13	"	63069	Gendron & Lemay, St. Hyacinthe.....	3	"	45	Can. Paint Co.		"

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DISTRICT OF MONTREAL—D. J. KEARNEY, INSPECTOR.

Aug. 4	Turpentine..	67456	The People's Hardware Co., 1523 St. Lawrence Boul., Montreal.	12 3	45	Unknown.....			
" 4	"	67457	Bernier Hardware Co., 126 St. Lawrence Boul., Montreal.	3	45	Imperial Oil Co.			
" 16	"	67458	A. Brouillet, 1330 St. Lawrence Boul., Montreal.	3	38	Can. Paint Co.			
" 16	"	67459	O. Rollin & Co., 1324 St. Lawrence Boul., Montreal.	3	37	Brit. Amer. Oil Co.			
" 16	"	67460	Beauvais Freres, 336 St. Lawrence Boul., Montreal.	3	45	Imperial Oil Co.			
" 23	"	67461	A. Geoffroy, 253 St. Paul st. E., Montreal.	3	30	Georgia Turpentine.			
" 23	"	67462	J. O. Denis, 239 St. Paul st. E., Montreal.	3	30	McArthur Irwin Co.			
" 24	"	67463	Lefevre & Lalonde, 187 Church ave., Verdun.	3	40	Mount Royal Colour & Varnish Co.			
" 24	"	67464	The Raymond Hardware, Ltd., 343 Notre Dame st. W., Montreal.	3	37	Georgia Turpentine Co.			
" 24	"	67465	L. Lafleur, Ltd., 366 Notre Dame st. W., Montreal.	3	37	"			

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				Quantity.	Cent.	Manufacturer.	Furnisher.	

DISTRICT OF VALLEYFIELD—J. J. COSTIGAN, ACTING INSPECTOR.

1915.								
July	22 Turpentine.	57991	L. P. Beaulne, Hawkesbury.	3 pts.	35	Can. Paint Co.		
"	"	57992	J. G. Higginson, Hawkesbury.	3 "	25	Imperial Oil Co.		
"	"	57993	J. O. Phenix, Hawkesbury.	3 "	45	Can. Paint Co.		
"	"	57994	A. Morand, Valleyfield.	3 "	45	"		
"	"	57995	V. Leger, Valleyfield.	3 "	35			
"	"	57996	Beaure & Chasle, Valleyfield.	3 "	36			
"	"	57997	N. Langevin, Valleyfield.	3 "	35			
"	"	57998	A. Lebeuf, Valleyfield.	3 "	40			
"	"	57999	Cote & Cie, St. Johns.	3 "	30	McArthur Irwin, Montreal.		
"	"	58000	C. O. Gervais & Fila, St. Johns.	3 "	35			

DISTRICT OF OTTAWA—J. A. RICEY, INSPECTOR.

July 16	Turpentine	51693	E. J. Metcalf, Renfrew...	3 pks	35	Ottawa Paint Works, Ottawa.	Manufacturer.
" 16	"	51694	Devine & Legree, Renfrew...	3 "	45	R. C. Janieson Co., Montreal.	"
" 16	"	51695	French & Co., Renfrew...	3 "	45	Can. Paint Co., Montreal.	"
" 16	"	51696	The Jennings Co., Renfrew...	3 "	40	Can. Oil Co., Toronto...	"
" 17	"	51697	A. G. Debbie & Co., Brockville...	3 "	40	Georgia Turpentine Co., Montreal.	"
" 17	"	51698	B. D. Steacy, Brockville...	3 "	45	Can. Paint Co., Montreal...	"
" 31	"	51699	Dunlop & Co., Ltd., Pembroke...	3 "	45	E. Fielding & Son, Toronto.	"
" 10	"	63486	Griffin & Brennan, Arnprior...	3 "	37	Ottawa Paint Works, Ottawa.	"
" 10	"	63490	John S. Moir, Arnprior...	3 "	35	Can. Paint Co., Montreal...	"
" 13	"	63491	W. J. Muirhead, Carleton Place...	3 "	35	Ottawa Paint Works, Ottawa.	"
" 13	"	63492	Taylor Bros., Carleton Place...	3 "	40	Can. Paint Co., Montreal...	"
" 17	"	63493	B. H. Smart, Brockville...	3 "	30	Midland, Toronto...	"

DISTRICT OF KINGSTON—JAMES HOGAN, INSPECTOR.

July 24	Turpentine	70251	Savage & Wightman, Kingston...	3 pks	13	Sanderson & Percy Co., Toronto.	Manufacturer.
" 24	"	70252	Robinson Bros., Kingston...	3 "	27	J. H. Morin, Toronto	"
" 24	"	70253	A. Chown & Co., Kingston...	3 "	15	"	Mixture of two kinds...
" 28	"	70254	John Laird & Sons, Kingston...	3 "	20	"	Dalton & Son, Kingston...
" 28	"	70255	W. J. Vines, Kingston...	3 "	20	"	H. W. Marshall, Kingston...
" 28	"	70256	H. W. Marshall, Kingston...	3 "	45	Georgia Turpentine Co., Montreal.	"
" 28	"	70257	J. B. Bunt & Co., Kingston...	3 "	35	"	Dalton & Son, Kingston...
" 28	"	70258	W. A. Mitchell, Kingston...	3 "	30	"	"
" 28	"	70259	Ed & Nicol, Kingston...	3 "	45	J. A. Casey Co., New York	"
" 28	"	70260	Advey & Birch, Kingston...	3 "	30	Oil & Rawson Co., Savannah, Ga.	"

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				Quantity.	Cents.	Manufacturer.	Furnisher.	

DISTRICT OF TORONTO—H. J. DAGER, INSPECTOR.

1915.	Aug. 8	Turpentine.	70074 W. A. Stephenson, 28 Vaughan Rd., Toronto.	3 boxes	25	Unknown	Unknown	
"	10	"	70075 R. H. Hudson, 1199 St. Clair Ave., Toronto.	3 "	25	Can. Oils, Ltd., Toronto.	Can. Oils, Ltd., Toronto.	
"	11	"	70076 Toms Bros., 1612 Danforth Ave., Toronto.	3 "	25	Ottawa Paint Co., Toronto.	Ottawa Paint Co., Toronto.	
"	15	"	70077 Nelson, Hallett & Johnson, 182 Dundas St. W., Toronto.	3 "	30	Reynolds & Co., Toronto.	Reynolds & Co., Toronto.	
"	14	"	70078 James McGill, Weston.	3 "	35	Glidden Varnish Co., Toronto.	Glidden Varnish Co., Toronto.	
"	16	"	70079 E. W. Chard, 324 College St., Toronto.	3 "	30	Sherwin-Williams Co., Ltd., Toronto.	Sherwin-Williams Co., Ltd., Toronto.	
"	17	"	70080 T. H. Boyd, 2252 Queen St. E., Toronto.	3 "	25	Royal Commission, Toronto.	Royal Commission, Toronto.	
"	17	"	70081 C. G. Bailey, 1958 Queen St. E., Toronto.	3 "	30	Imperial Oil Co., Ltd., Toronto.	Imperial Oil Co., Ltd., Toronto.	
"	1	"	70082 H. Wall, 305 Roncesville Ave., Toronto.	3 "	25	Turpentine Producers, Ltd., Toronto.	Turpentine Producers, Ltd., Toronto.	
"	20	"	70083 J. W. Peacock, 1026 Queen St. W., Toronto.	3 "	25	"	"	

DISTRICT OF HAMILTON H. J. DAGER, ACTING INSPECTOR.

July 21	Turpentine..	70041	C. Chapman, 208 St. Paul St., 3 pks.	40	Arthur Irvin Co., Montreal.
" 21	"	70042	St. Catharines. W. R. McKenzie & Co., Niagara 3	60	P. I. Chen & Johnson Co., Ltd., Toronto.
" 22	"	70043	on-the-Lake. L. I. Hunt & Son, Thorold... 3	35	Empire Commission Co., Toronto.
" 23	"	70044	G. H. Clark, 54 Erie Ave., Nia. 3 bota.	30	Can. Paint Co., Ltd., To- ronto.
" 24	"	70045	gara Falls. McEverts & Henry, 485 Victoria 3	35	Unknown
" 26	"	70046	Ave., Niagara Falls. Pringle & Son, Nobleton... 3	45	Brit. Amer. Oil Co., Toronto.
" 28	"	70047	W. B. Gardner & Sons, Bolton... 3 bota.	35	Imperial Oil Co., Toronto.
Aug. 5	"	70048	W. E. Anthony, Brampton. 3	60	Sanderson, Percy Co., Ltd., Toronto.
" 4	"	70049	J. W. Kennedy, Georgetown 3	35	Unknown
" 5	"	70050	Arcade, Ltd., 45 James St. 3	36	Wood, Valance Co., Ltd., Hamilton.

DISTRICT OF WINLSOR—JOHN TALBOT, INSPECTOR

Aug. 9	Turpentine	54644	Odell & Mitchell, London. 3 bot.	20	West, Rosin & Turpentine Co., Detroit.
" 9	"	54646	Love Hardware Co. 3	25	"
" 9	"	54648	J. G. Steele & Co., London ... 3	25	Howden Hardware Co., London.
" 10	"	54650	A. Westman, London. 3	25	Taylor & Lowenstein & Co. Mob. & Alta.
" 10	"	54652	Kilpatrick Bros., London... 3	20	Howden Hardware Co., London.
" 10	"	54654	F. E. Jones, London... 3	10	West, Rosin & Turpentine Co., Detroit.
" 12	"	54657	Fred N. Karn, Woodstock... 3	20	"
" 12	"	54659	J. N. Smiley, Woodstock... 3	20	Howden Hardware Co., London.
" 12	"	54662	Davidson & McInnes, Woodstock. 3	25	International Varnish Co., Toronto.
" 13	"	54664	McMurty Hardware, St. Thomas 3	124	West, Rosin & Turpentine Co., Detroit.
" 13	"	54666	Jackson & Firth, St. Thomas ... 3	30	Sherwin-Williams C. Montreal.
" 13	"	54670	A. E. Campbell, St. Thomas ... 3	174	Hobb Hardware Co., London.

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				Quantity.	Cents.	Manufacturer.	Furnisher.	

DISTRICT OF MANITOBA—J. B. COSGROVE, TEMPORARY INSPECTOR.

1915.	Aug.	4	Turpentine.	61325	Walter Johnson, 533 Sherbrooke, Winnipeg.	3	pts.	40	Miller Morse, Winnipeg.
"	"	4	"	61326	Andrews & Sons, Victor St., Winnipeg.	3	"	60	Can. Paint Co., Winnipeg.
"	"	4	"	61327	R. Steiman Hardware Co., 541 Selkirk Ave., Winnipeg.	3	"	60	Can. Oil Co., Winnipeg.
"	"	4	"	61329	Tulley & Davey, 1772 Main St., Winnipeg.	3	"	60	Wood, Valance Co., Winnipeg.
"	"	5	"	61351	R. Thornton, 202 Tache Ave., Norwood.	3	"	45	G. F. Stephen, Winnipeg.
"	"	5	"	61353	Allaire & Blean, 568 Tache Ave., St. Boniface.	3	"	60	Snowdon Oil Co., Winnipeg.
"	"	7	"	61354	H. R. Wood, Napuka.	3	"	60	Sherwin, Williams, Winnipeg.
"	"	9	"	61358	Myers & Williams, 655 10th St., Brandon.	3	"	60	Merrick Anderson, Winnipeg.
"	"	12	"	61359	A. J. Bond & Co., 1763 Portage Ave., St. James.	3	"	60	Searle & Co., Winnipeg.
"	"	12	"	61340	Aikenhead-Clark Hardware Co., Boyd Building, Winnipeg.	3	"	60	

DISTRICT OF SASKATCHEWAN L. H. HALL, TEMPORARY INSPECTOR.

July 19	Turpentine.	66394	C. T. Laird, Regina.	3 pbs	60	Unknown.	.....
" 19	"	66395	Regina Trading Co., Regina.	3 "	60	Continental Oil Co.	.....
" 19	"	66396	Armstrong Saythe & Dowswell, Regina.	3 "	69	Winnipeg Oil Co., Regina.	.....
" 20	"	66398	John Goebel, Melville.	3 "	60	Winnipeg Oil Co., Melville.	.....
" 20	"	66400	E. Smith, Melville.	3 "	60	"	.....
" 20	"	66402	Wm. Anderson, Melville.	3 "	40	Sherwin Williams Co., Winnipeg.	.....
" 21	"	66410	Chas. Beck, Yorkton.	3 "	50	Winnipeg Oil Co., Yorkton.	.....
" 21	"	66412	D. A. Sands, Yorkton.	3 "	75	G. F. Stephens & Co., Winnipeg.	.....
" 22	"	66416	Ibbister & Pretty, Saskatoon.	3 "	60	"	.....
" 23	"	66418	Fawcett Hardware Co., Saskatoon.	3 "	40	Prairie City Oil Co., Saskatoon.	.....

DISTRICT OF ALBERTA—A. W. R. MARKLEY, INSPECTOR.

Aug. 10	Turpentine.	52246	Northern Hardware Co., Edmonton.	3 pbs.	45	Brit. Amer. Paint Co., Edmonton.	.....
" 10	"	52247	Chown Hardware Co., Edmonton.	3 "	60	G. F. Stephens Co., Winnipeg.	.....
" 10	"	52248	J. A. Werner, Edmonton.	3 "	60	Brit. Amer. Paint Co., Edmonton.	.....
" 10	"	52249	Somersville Hardware Co., Ft. Edmonton.	3 "	60	Marshall Wells Alberta Co., Edmonton.	.....
" 12	"	52250	Geo. D. Wallace, Ltd., Wetaskiwin.	3 "	50	G. F. Stephens Winnipeg.	.....
" 13	"	52251	Morrison & Johnstone, Ltd., Lacombe.	3 "	45	Marshall Wells Winnipeg.	.....
" 13	"	52252	A. M. Campbell, Lacombe.	3 "	40	G. F. Stephens Co., Winnipeg.	.....
" 20	"	52253	J. H. Ashdown Hardware Co., Calgary.	3 "	30	Prairie City Oil Co., Winnipeg.	.....
" 20	"	52254	Marshall Hardware, Ltd., Calgary.	3 "	60	Calgary Paint & Glass Co.	.....
" 20	"	52255	Hall Hardware Co., Calgary.	3 "	25	Brit. Amer. Paint Co., Calgary.	.....

BULLETIN No. 331—TURPENTINE.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	Inspector's Report. (Is not an expression of opinion.)
				Quantity.	Cents.		
						Manufacturer.	Furnisher.

DISTRICT OF ROCKY MOUNTAINS—THOS. PARKER, INSPECTOR.

1915.							
July 20	Turpentine	61847	F. Wilmes, Trail	3	60	Sherwin Williams Co., Montreal.	Jones & Drillingham, Spokane.
" 20	"	61854	Hunter Bros., Rossland	3	40	"	McLennan & McFeely, Vancouver.
Aug. 6	"	61866	W. R. Megaw, Vernon	3	50	"	Wood, Vallance & Leggett, Vancouver.
" 6	"	61867	Vernon Hardware Co., Vernon	3	60	"	McLennan & McFeely, Vancouver.
" 10	"	61872	Wilcox Hall Co., Kamloops	3	50	"	"
" 10	"	61875	Marlatt & McKenzie, Kamloops	3	50	Imperial Oil Co., Vancouver.	"
" 10	"	61876	N. S. Dalglish, Kamloops	3	50	"	"
" 16	"	61882	Merritt Mercantile Co., Merritt	3	65	"	Johnson Paint & Varnish Co., Vancouver.
" 16	"	61883	Armstrong's Departmental Stores, Merritt	3	50	"	Cunningham Hardware New Westminster.
" 16	"	61886	A. Jackson, Merritt	3	60	Imperial Oil Co., Vancouver.	"

DISTRICT OF VANCOUVER E. J. MORGAN, INSPECTOR.

July 28	Turpentine.	55348	W. C. Stearman, 613 Granville St., Vancouver.	60	Imperial Oil Co., Vancouver.	
" 28	"	55349	Hunter Henderson Paint Co., 6423 Granville St., Vancouver.	60	British American Paint Co., Victoria.	
" 29	"	55350	F. R. Beag & Co., Ltd., 1673 Pender St. W., Vancouver.	50	A. Ramsay & Son, Montreal.	
" 29	"	55351	Imperial Varnish & Colour Co., 43 Pender St. W., Vancouver.	60		Crown Paint Co., Vancouver.
" 29	"	55352	Wood, Vallance & Leggett, Ltd., 8 Cordova St. W., Vancouver.	40	Imperial Oil Co., Vancouver.	
" 30	"	55353	Gorton Brown & Co., 2021 Granville St., Vancouver.	35	R. C. Jamieson & Co., Montreal.	
" 30	"	55354	Crown Paint Co., 24 Cordova St. E., Vancouver.	50	Texas Turpentine Co., Rembig, Texas, U.S.A.	
" 31	"	55355	Cunningham Hardware Co., Columbia St., New Westminster.	55		
" 31	"	55356	H. T. Kirk, Columbia St., New Westminster.	60		Crown Paint Co., Vancouver.
Aug. 2	"	55357	Vancouver Hardware Co., Granville St., Vancouver.	60	A. Ramsay & Son, Montreal.	McLennan & McFeely & Co., Vancouver.

Sold as near turpentine.

DISTRICT OF VICTORIA—D. OSULLIVAN, INSPECTOR.

Sept. 24	Turpentine.	66790	Mellor Bros., Ltd., P.O. Box 382, Victoria.	60		Imperial Oil Co., Victoria.
" 24	"	66792	The Standland Co., 840 Fort St., Victoria.	75		Agent at Seattle.
" 27	"	66793	H. Harkness & Son, 919 Pandora St., Victoria.	75		B. A. Paint Co., Victoria.
" 27	"	66795	J. L. Forrester, 1304 Douglas St., Victoria.	75		"
" 28	"	66797	P. McQuade & Son, 1214 Wharf St., Victoria.	56		The Standland Co., Victoria.
" 28	"	66799	E. B. Marvin & Co., 1202 Wharf St., Victoria.	75		Imperial Oil Co., Victoria.
" 29	"	66801	Brit. Amer. Paint Co., Laurel Point, Victoria.	25		A. Hardsacre & Co., New Orleans.
" 29	"	66803	The Melrose Co., Ltd., Fort St., Victoria.	60		Imperial Oil Co., Victoria.

BULLETIN No. 331—TABLE I

RESULTS OF

Name of Inspectoral District.	No. of Sample.	Sp. Gr. at 15° C.	Residue 10cc. Acc.	Acid.	Ref. Index 20° C. Residue.	Ref. Index 20° C. Turbidity.	Boiling Point of Fractions from 100cc.				Refractive Index and			
							1st, 2cc.	2nd, 2cc.	3rd, 2cc.	Next, 15cc.	I	II	III	
Nova Scotia.	64256	0.8598	3.6	1	4714	1	4702	148	164	-172.5	-195	1.4679	1.4680	1.4680
	64257	0.8621	3.4	1	4701	1	4706	149	164	-174	-200	1.4694	1.4697	1.4697
	64258	0.8616	3.5	1	4705	1	4704	149	164	-173.5	-201	1.4687	1.4697	1.4697
	64259	0.8614	3.5	1	4713	1	4704	149	164	-173.5	-200	1.4687	1.4691	1.4696
	64260	0.8608	3.6	1	4695	1	4700	148	164	-174	-198	1.4689	1.4689	1.4689
	63841	0.8609	0.9	1	5043	1	4708	148	157.5	-158	-159.5	1.462	1.4689	1.4694
	63842	0.8629	0.8	1	5045	1	4699	148	157	-158	-159.5	1.463	1.4686	1.4688
	63843	0.8646	1.1	1	5030	1	4704	152	157	-158.5	-159.5	1.461	1.4694	1.4695
	63844	0.8647	1.1	1	5033	1	4709	152	157	-158	-159.5	1.462	1.4687	1.4694
	63845	0.8646	1.3	1	5105	1	4699	152	157	-157.5	-158.5	1.461	1.4681	1.4684
Cape Breton.	63846	0.8646	1.3	1	5026	1	4710	153	157	-158	-159	1.462	1.4685	1.4692
	63847	0.8653	1.4	1	5036	1	4699	153	156	-158	-160	1.464	1.4681	1.4687
	60365	0.8626	1.1	1	5030	1	4707	154	157	-158.5	-159.5	1.462	1.4691	1.4693
	60366	0.8638	1.3	1	5071	1	4705	154	158	-158.5	-159.5	1.462	1.4693	1.4697
	60367	0.8648	0.9	1	5069	1	4733	148	157.5	-160	-164.5	1.463	1.4693	1.4707
	60368	0.8703	1.1	1	4833	1	4689	145	155	-158	-161	1.463	1.4694	1.4694
	60369	0.8567	2.4	1	4977	1	4661	146	157	-160	-164	1.467	1.4697	1.4697
	60370	0.8632	1.1	1	4984	1	4689	144	156	-157	-158	1.463	1.4677	1.4679
	60371	0.8585	4.7	1	4712	1	4686	154	168	-183	-217	1.467	1.4681	1.4682
	60372	0.8713	0.4	1	5007	1	4711	147	156	-158	-160	1.467	1.4677	1.4681
New Brunswick.	66151	0.8635	1.1	1	5030	1	4696	149	159	-157	-157.5	1.467	1.4678	1.4683
	66152	0.8634	1.3	1	5047	1	4649	149	156.5	-157	-158	1.467	1.4686	1.4687
	66153	0.8646	1.1	1	5035	1	4705	150	156	-158	-159	1.461	1.4694	1.4699
	66154	0.8635	0.9	1	5028	1	4696	150	156.5	-157.5	-158	1.461	1.4685	1.4687
	66155	0.8632	1.2	1	5036	1	4699	152	157	-157	-158.5	1.461	1.4687	1.4687
	66156	0.8640	1.4	1	5035	1	4693	151	157	-157	-158	1.461	1.4679	1.4679
	66157	0.8638	0.7	1	5033	1	4703	151	157	-158	-159	1.461	1.4691	1.4691
	66158	0.8638	1.0	1	5030	1	4699	151	157	-158	-159	1.461	1.4682	1.4682
	66159	0.8656	1.0	1	5053	1	4708	152	157.5	-159	-160	1.462	1.4693	1.4695
	66160	0.8659	1.1	1	4948	1	4699	154	158	-159	-160	1.461	1.4680	1.4686
Quebec Province.	3603	0.8488	3.80	1	4600	1	4625	120	158	-163	-169	1.4598	1.4625	1.4640
	3610	0.8490	3.84	1	4594	1	4625	110	158	-158	-163	1.4600	1.4620	1.4634
	3615	0.8655	0.32	1	5060	1	4705			-163	-179	1.4620	1.4684	1.4684
	3624	0.8626	3.60	1	4698	1	4690	135	162	-171	-205	1.4670	1.4678	1.4685
	3627	0.8614	4.60	1	4705	1	4690	128	164	-171	-205	1.4670	1.4678	1.4685
	3584	0.8703	3.52	1	4614	1	4679	110	161	-172	-198	1.4692	1.4640	1.4664
	3588	0.8603	3.76	1	4704	1	4685	150	164	-172	-183	1.4680	1.4680	1.4680
	3593	0.8655	0.88	1	4970	1	4700							
	4401	0.8699	0.44	1	5058	1	4710							
	4403	0.8698	0.56	1	5110	1	4715	151	157	-158	-159	1.4705	1.4700	1.4710
	4406	0.8680	0.8	1	4988	1	4709							
	4410	0.8711	0.96	1	4924	1	4700	130	153	-153	-159	1.4681	1.4696	1.4705
	4413	0.8632	0.72	1	4980	1	4672							
	4416	0.8705	0.72	1	4874	1	4716	120	153	-159	-167	1.4650	1.4684	1.4708
	4423	0.8700	0.64	1	4988	1	4710							
	2990	0.8667	0.88	1	4912	1	4715	150	157	-158	-159	1.4690	1.4700	1.4705
	3000	0.8662	0.88	1	5010	1	4708							
	3110	0.8787	0.64	1	5030	1	4730							
	3113	0.8688	0.80	1	4996	1	4704							
	3223	0.8607	1.11	1	4611	1	4688	85	156	-167	-189	1.4640	1.4665	1.4678
	2769	0.8675	0.72	1	4996	1	4700							
	2771	0.8656	0.88	1	5000	1	4704							
	2773	0.8612	0.66	1	4965	1	4690							
	2777	0.8536	3.76	1	4622	1	4650	112	163	-171	-194	1.4582	1.4636	1.4690
	2783	0.8675	0.96	1	4972	1	4700							

PART II—TURPENTINE.

ANALYSIS.

20 C. of Fractions Residue.		Volumes Obtained from 100cc.											Residue on Evaporation.	Iodine Number.	Flash Point.	No. of Sample.	Remarks and Opinion of the Chief Analyst.	
IV	Residual 10cc.	Residual 2cc.	Under 140° C.	140° to 150°.	150° to 160°.	160° to 170°.	170 to 174°.	175 to 179°.	180° to 184°.	185° to 186°.	190 and over.							
		1 4738	4	5	8	14	14	11	6	5	5	3				64256	Adulterated.	See note on
		1 4742	3	3	6	17	15	9	8	5	5	4				64257	"	"
		1 4741	3	4	7	16	15	9	7	5	3	2				64258	"	"
		1 4743	2	4	9	14	14	10	6	6	4	3				64259	"	"
		1 4737	3	4	8	13	13	11	7	4	5	7				64260	"	"
1 4708	1 4804		3	4	7	7										60841		
1 4708	1 4798		3	7	7	10	10									60842		
1 4713	1 4787			7	7	5	8									60843		
1 4712	1 4850			6	7	6	8									63814		
1 4700	1 4902			4	8	4	2									63816		
1 4708	1 4840			4	7	7	9									60363		
1 4705	1 4804			3	7	3	14									60364		
1 4712	1 4806			1	7	7	12									60365		
1 4715	1 4777				1	7	9	10								60366		
1 4743	1 5137		2	5	4	2	28	6	3	2	1	1				60367		
		1 4841	5	17	4	7	6									60368		
1 4689	1 4920		2	11	3	26	9	3	1							60369	Adulterated.	See note on
1 4692	1 4811		2	10	7	4	4									60370	page 5.	
		1 4746	3	1	0	9	7	13	5	7	5	10				60371	Adulterated.	See note on
1 4723	1 5090		2	14	5	9	4	2	1							60372	page 5.	
1 4694	1 4773		1	10	7	9										66151		
1 4700	1 4763		1	3	8	6										66152		
1 4713	1 4828			5	8	2	3									66153		
1 4688	1 4782			5	8	4	1									66154		
1 4703	1 4794			5	8	2	3									66155		
1 4695	1 4850			6	8	1	3									66156		
1 4711	1 4794			5	7	9	6									66157		
1 4702	1 4813			7	8	1	2									66158		
1 4710	1 4800			2	7	3	15									60359		
1 4702	1 4781			2	7	1	17									(130		
1 4638	1 4784		1	5	3	2	23	14	7	6	1	1				3603	Adulterated.	See note on
1 4632	1 4780		3	9	5	0	22	4	1		1					3610	"	"
																3615	"	"
1 4698	1 4902		3	1	7	4	10	10	3	2	1	12				3624	Adulterated.	See note on
1 4715	1 49 +		2	1	10	14	21	15	3	2	1	21				3627	page 5.	
1 4730	1 49 +		2	7	12	15	10	11	5	6	3	19				3584	"	"
1 4688	1 4804			1	2	22	20	17	8	9	4	7				3588	"	"
																3593		
																4401		
1 4728	1 4923			1	7	4	14	1								4403		
																4408		
1 4724	1 5044		1	3	2	4	2	10	4	1						4410		
																4413		
1 4788	1 5 +		6	3	14	14	6	5	2		1	3				4416		
																1423		
1 4720	1 4948			9	6	9	4	2								299		
																300		
																311		
																313		
1 4712	1 4922		12	3	4	11	15	5	4	7	7	12				322	Adulterated.	See note on
																2769	page 5.	
																2771		
1 4730	1 49 +		2	2	13	17	15	9	4	4	4	20				2773		
																2777	Adulterated.	See note on
																2783	page 5.	

BULLETIN No. 331—TABLE I

RESULTS OF

Name of Inspectoral District.	No. of Sample.	Sp. Gr. at 15.5° C.	Residue 10cc. 40cc. Acid.	Ref. Index 20° C. Residue.	Ref. Index 20° C. Turpentine.	Boiling Point of Fractions from 100cc.				Refractive Index and		
						1st, 25cc.	2nd, 25cc.	3rd, 25cc.	Next, 15cc.	I	II	III
Three Rivers ...	2789	0.8536	2.72	1.4592	1.4650	147-158	-163	-174	-235	1.4635	1.4658	1.4660
	2792	0.8829	0.64	1.4900	1.4728	85-157	-159	-169	-225	1.4654	1.4698	1.4712
	2794	0.8770	2.48	1.4680	1.4702	100-159	-167	-184	-225	1.4640	1.4666	1.4685
	2797	0.8734	0.60	1.4922	1.4690	95-156	-158	-167	-218	1.4650	1.4682	1.4702
	69124	0.8658	0.48	1.5045	1.4702							
	69125	0.8633	0.40	1.5084	1.4704							
	69126	0.8651	0.48	1.5072	1.4704							
	69127	0.8647	0.40	1.5080	1.4702							
	69128	0.8670	0.40	1.5068	1.4702							
	69129	0.8662	0.56	1.5026	1.4704							
	69130	0.8798	0.64	1.4950	1.4720							
	69131	0.8742	0.64	1.5030	1.4726							
	69132	0.8650	0.68	1.5042	1.4704							
	69133	0.8679	0.84	1.4882	1.4694	140-156	-158	-159	-169	1.4650	1.4686	1.4698
Eastern Townships.	69184	0.8676	0.80	1.4995	1.4710							
	63050	0.8709	3.32	1.4665	1.4725	130-169	-183	-210	-247	1.4670	1.4688	1.4700
	63051	0.8559	1.40	1.4635	1.4668	80-164	-169	-190	-238	1.4586	1.4668	1.4686
	63052	0.8483	3.36	1.4580	1.4632	147-159	-161	-163	-179	1.4600	1.4632	1.4648
	63053	0.8652	0.88	1.4922	1.4700	150-155	-155	-155	-159	1.4678	1.4692	1.4700
	63054	0.8666	0.64	1.5020	1.4702							
	63055	0.8499	3.36	1.4564	1.4624	130-156	-156	-166	-197	1.4576	1.4620	1.4636
	63056	0.8488	3.36	1.4596	1.4630	140-159	-161	-164	-195	1.4596	1.4630	1.4644
	63057	0.8665	0.92	1.4952	1.4700							
	63058	0.8794	0.56	1.5012	1.4722							
Montreal ...	63059	0.8662	0.72	1.5022	1.4712							
	67456	0.8664	0.72	1.5008	1.4706							
	67457	0.8661	0.76	1.5000	1.4704							
	67458	0.8699	0.92	1.4756	1.4690	93-157	-159	-162	-179	1.4632	1.4665	1.4686
	67459	0.8548	3.52	1.4570	1.4638	120-163	-167	-179	-205	1.4612	1.4632	1.4645
	67460	0.8648	0.88	1.4952	1.4694							
	67461	0.8695	3.40	1.4676	1.4704	110-167	-178	-220	-235	1.4668	1.4680	1.4692
	67462	0.8675	0.56	1.5080	1.4712							
	67463	0.8680	0.44	1.5086	1.4710							
	67464	0.8614	3.36	1.4684	1.4700	140-164	-175	-220	-235	1.4680	1.4690	1.4698
Valleyfield	67465	0.8618	3.48	1.4665	1.4698	145-168	-178	-215	-247	1.4624	1.4634	1.4686
	57991	0.8800	0.64	1.4975	1.4740	100-158	-160	-170	-225	1.4650	1.4690	1.4706
	57992	0.8902	0.56	1.4984	1.4750	100-157	-158	-168	-215	1.4682	1.4692	1.4710
	57993	0.8869	0.48	1.4965	1.4740	100-156	-156	-168	-230	1.4680	1.4696	1.4708
	57994	0.8681	0.88	1.4964	1.4706							
	57995	0.8643	0.72	1.4952	1.4692							
	57996	0.8652	0.76	1.4955	1.4706							
	57997	0.8671	1.00	1.5042	1.4704							
	57998	0.8744	0.92	1.4872	1.4710	140-157	-157	-164	-210	1.4680	1.4685	1.4692
	57999	0.8648	1.04	1.5010	1.4702							
Ottawa ...	58000	0.8580	3.68	1.4670	1.4680	120-158	-164	-178	-215	1.4652	1.4664	1.4684
	51693	0.8451	2.80	1.4521	1.4610	150-157	-158	-159	-174	1.4612	1.4620	1.4630
	51694	0.8639	0.78	1.5050	1.4705							
	51695	0.8668	0.88	1.4968	1.4700							
	51696	0.8662	0.56	1.5002	1.4700							
	51697	0.8602	1.00	1.4715	1.4692	150-167	-177	-207	-238	1.4680	1.4690	1.4690
	51698	0.8667	0.64	1.5005	1.4700							
	51699	0.8665	0.88	1.4965	1.4704							
	63689	0.8441	2.92	1.4494	1.4610	130-153	-154	-158	-169	1.4595	1.4615	1.4622
	63690	0.8664	1.00	1.4998	1.4705							
Kingston	63691	0.8486	2.72	1.4580	1.4630	140-157	-158	-159	-169	1.4610	1.4640	1.4648
	63692	0.8662	0.68	1.4970	1.4700							
	63693	0.8227	4.08	1.4412	1.4510	100-140	-153	-157	-163	1.4284	1.4502	1.4616
	70251	0.8693	0.60	1.5030	1.4708							
	70252	0.8675	0.56	1.5060	1.4710							

PART II—TURPENTINE ANALYSIS.

Index
and

III

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20° C. of Fractions Residues.	Volumes Obtained from 100cc.										Residue on Evapora- tion.	Iodine Number.	Flash Point.	No. of Sample.	Remarks and Opinion of the Chief Analyst.
	Residual 10cc.	Residual 25cc.	Under 150° C.	150° to 154°	155° to 159°	160° to 164°	165° to 169°	170° to 174°	175° to 179°	180° to 184°	185° to 189°	190° and over.			
1 4614	1 4702	1 20	9 29	11	5 3	2 2	8	2789	Adulterated. See note on page 5.
1 4822	1 49+	.....	5 10	38 17	6 3	2 1	1 1	7	.....	.....	.....	.....	.....	2792
1 4748	1 49+	4 8	13 22	13	8 4	3 1	14	2794	Adulterated. See note on page 5.
1 4802	1 49+	.....	4 13	42 14	6 2	1 1	1 1	6	.....	.....	.....	.....	.....	2797
.....	69124	Adulterated. See note on page 5.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	69125
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	69126
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	69127
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	69128
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	69129
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	69130
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	69131
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	69132
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	69133
4698	1 4718	1 4968	3 10	62 11	4	69184	Adulterated. See note on page 5.
4700	1 4760	1 49+	.....	.....	5 12	12 8	9 9	6 29	.....	.....	.....	.....	.....	63050
4686	1 4708	1 4892	4 3	9 14	20 9	5 6	4 6	63051	Adulterated. See note on page 5.
4648	1 4650	1 4720	.....	.....	5 29	50 4	1 1	.....	.....	.....	.....	.....	.....	63052
4700	1 4712	1 4846	.....	.....	2 88	.....	.....	.....	.....	.....	.....	.....	.....	63053
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	63054
4686	1 4645	1 4820	1 12	41 16	9 3	2 2	1 3	63055	Adulterated. See note on page 5.
4644	1 4640	1 4722	.....	2 3	25 36	15 7	4 2	1 1	.....	.....	.....	.....	.....	63056
.....	63057	Adulterated. See note on page 5.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	63058
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	63059
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	67456
4686	1 4720	1 5115	3 8	55 15	5 3	1	67457	Adulterated. See note on page 5.
4645	1 4645	1 4892	.....	1 5	5 29	19 11	7 5	2 6	.....	.....	.....	.....	.....	67458
4692	1 4726	1 4930	.....	1 1	1 15	15 10	11 9	3 24	.....	.....	.....	.....	.....	67459
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	67460
4698	1 4718	1 4808	3 5	17 12	12 7	7 1	26	67461	Adulterated. See note on page 5.
4686	1 4718	1 4852	.....	3 3	9 20	11 7	5 3	29	.....	.....	.....	.....	.....	67462
4706	1 4830	1 5+	.....	1 11	33 23	6 4	2 1	1 8	.....	.....	.....	.....	.....	67463
4710	1 4805	1 5+	.....	2 9	47 13	5 3	3 1	1 6	.....	.....	.....	.....	.....	67464
4708	1 4812	1 5+	4 15	41 11	6 2	2 1	1 7	57991	Adulterated. See note on page 5.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	57992
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	57993
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	57994
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	57995
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	57996
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	57997
4692	1 4740	1 49+	.....	3 6	5 8	6 2	1 2	1 2	.....	.....	.....	.....	.....	57998
4684	1 4692	1 4845	.....	8 10	27 10	9 4	5 3	1 10	.....	.....	.....	.....	.....	57999
4630	1 4610	1 467 2	.....	4 7	3 7	5 1	.....	.....	.....	.....	.....	.....	.....	58000
4690	1 4710	1 49+	2 4	12 21	7 13	4 4	23	51693	Adulterated. See note on page 5.
4622	1 4600	1 4665	.....	2 5	3 27	6 2	.....	.....	.....	.....	.....	.....	.....	51694
4648	1 4625	1 4720	.....	14 6	9 6	1	.....	.....	.....	.....	.....	.....	.....	51695
4616	1 4662	1 4760	.....	41 26	27 2	.....	.....	.....	.....	.....	.....	.....	.....	51696
.....	51697	Adulterated. See note on page 5.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	51698
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	51699
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	51699
.....	63689	Adulterated. See note on page 5.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	63690
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	63691
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	63692
.....	63693	Adulterated. See note on page 5.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	70231
.....	70252	Adulterated. See note on page 5.

BULLETIN No. 331—TABLE I

RESULTS OF

Name of Inspectoral District.	No. of Sample.	S. Gr. at 20° C.	Residue 10cc. 40cc. Acid.	Ref. Index 20° C. Residue.	Ref. Index 20° C. Turpentine.	Boiling Point of Fractions from 100cc.				Refractive Index and		
						1st. 25cc.	2nd 25cc.	3rd 25cc.	Next, 15cc.	I	II	III
Kingston—Con.	70253	0.8648	0.72	1.5024	1.4710							
	70254	0.8726	0.48	1.5058	1.4714							
	70255	0.8562	4.16	1.4722	1.4765	100—164	-174	-184	-243	1.4670	1.4675	1.4685
	70256	0.8682	1.08	1.4860	1.4715	130—154	-159	-167	-210	1.4700	1.4700	1.4710
	70257	0.8673	0.56	1.5062	1.4718							
	70258	0.8655	0.64	1.5039	1.4700							
	70259	0.8657	0.68	1.5060	1.4708							
	70260	0.8649	0.44	1.5065	1.4716							
	70074	0.8646	0.64	1.5018	1.4702							
	70075	0.8665	0.72	1.5030	1.4720							
Toronto.....	70076	0.8647	0.68	1.5042	1.4714							
	70077	0.8539	2.00	1.4630	1.4660	140—157	-159	-161	-168	1.4620	1.4665	1.4682
	70078	0.8687	0.72	1.4895	1.4698	130—156	-156	-159	-174	1.4648	1.4684	1.4700
	70079	0.8453	3.20	1.4700	1.4624	130—159	-164	-179	-230	1.4612	1.4642	1.4644
	70080	0.8409	0.76	1.4480	1.4602	140—157	-163	-167	-189	1.4550	1.4610	1.4628
	70081	0.8653	0.68	1.4956	1.4702							
	70082	0.8477	2.20	1.4524	1.4635	120—156	-158	-162	-172	1.4560	1.4652	1.4672
	70083	0.8497	1.92	1.4552	1.4644	140—157	-158	-161	-171	1.4600	1.4658	1.4678
	70041	0.8682	0.44	1.4985	1.4720							
	70042	0.8690	0.56	1.4995	1.4705							
Hamilton.....	70043	0.8422	4.00	1.4552	1.4606	130—158	-161	-169	-195	1.4550	1.4600	1.4622
	70044	0.8617	0.96	1.4825	1.4685	150—156	-156	-156	-161	1.4680	1.4675	1.4690
	70045	0.8649	0.72	1.4970	1.4704							
	70046	0.8721	0.48	1.4975	1.4720							
	70047	0.8690	0.56	1.4984	1.4710							
	70048	0.8659	0.44	1.4998	1.4712							
	70049	0.8734	0.40	1.4958	1.4720							
	70050	0.8700	0.60	1.4970	1.4712							
	54644	0.8639	0.68	1.5030	1.4694							
	54646	0.8649	0.64	1.5030	1.4700							
Windsor.....	54648	0.8640	0.68	1.5020	1.4698							
	54650	0.8649	0.64	1.5015	1.4706							
	54652	0.8648	0.64	1.5024	1.4694							
	54654	0.8652	0.60	1.5030	1.4692							
	54657	0.8666	0.56	1.5018	1.4705							
	54659	0.8666	0.68	1.5018	1.4712							
	54662	0.8661	0.64	1.5048	1.4694							
	54664	0.8690	0.64	1.5018	1.4710							
	54666	0.8662	0.56	1.5040	1.4710							
	54670	0.8665	0.60	1.5042	1.4705							
Manitoba.....		Sp. gr. at 15° C.										
	61325	0.8592	2.00	1.4780	1.4670		150°					
	61326	0.8685	0.72	1.5155	1.4708		150°					
	61327	0.8687	0.72	1.5100	1.4703		149°					
	61329	0.8765	0.80	1.5104	1.4715		151°					
	61331	0.8619	1.04	1.4875	1.4672		149°					
	61333	0.8703	0.64	1.5090	1.4708		153°					
	61334	0.8595	1.68	1.4820	1.4672		149°					
	61338	0.8699	0.56	1.5050	1.4709		148°					
	61339	0.8684	0.64	1.5060	1.4702		153°					
Saskatchewan..	61340	0.8647	1.60	1.4820	1.4678		150°					
	66394	0.8743	0.48	1.5030	1.4705		150°					
	66395	0.8612	1.36	1.4800	1.4673		150°					
	66396	0.8692	0.80	1.5038	1.4703		152°					
	66398	0.8694	0.48	1.5060	1.4706		149°					
	66400	0.8698	0.72	1.5068	1.4708		150°					

PART II—TURPENTINE.

ANALYSIS.

IV	20° C. of Fraction Residue.		Volumes Obtained from 100cc.								Residue on Evaporation.	Iodine Number.	Flash Point.	No. of Sample.	Remarks and Opinion of the Chief Analyst.
	Residual 10cc.	Residual 25cc.	Under 150° C.	150° to 154°.	155° to 159°.	160° to 164°.	165° to 169°.	170° to 174°.	175° to 179°.	180° to 184°.	185° to 189°.	190° and over.			
14715	14890		4	6	4	15	15	6	13	12	1	14		70253	Adulterated. See note on page 5.
14740	15085		1	29	24	18	7	4	4		1	2		70254	
														70255	
														70256	
														70257	
														70258	
														70259	
														70260	
														70074	
														70075	
14684	14760		2	10	8	35	5							70076	Adulterated. See note on page 5.
14720	15028		2	11	62	10	3	2						70077	
14598	14745		1	4	20	25	16	5	4	3	1	11		70078	
														70079	Adulterated. See note on page 5.
14624	14716		4	10	24	25	17	4	2	2	1			70080	
														70081	
14678	14728		6	15	42	22	4	1						70082	Adulterated. See note on page 5.
14686	14735		3	15	49	17	5	1						70083	
														70041	
														70042	Adulterated. See note on page 5.
14622	14850		4	11	31	24	5	5	3	3	2	2		70043	
14700	14815			8	81	1								70044	
														70045	
														70046	
														70047	
														70048	
														70049	
														70050	
														54641	
														54646	Adulterated. See note on page 5.
														54648	
														54650	
														54652	
														54654	
														54657	
														54658	
														54662	
														54664	
														54666	
														54671	Adulterated. See note on page 5.
														61325	
														61326	
														61327	
														61329	
														61331	
														61332	
														61334	
														61338	
														61339	
														61340	Adulterated. See note on page 5.
														66394	
														66397	
														66396	
														66398	
														66400	
														66401	
														66402	
														66403	
														66404	

BULLETIN No. 331—TABLE I

RESULTS OF

Name of Inspector District.	No. of Sample.	Sp. Gr. at 15° C.	Residue 10 cc. cc. acid.	Ref. Index 20° C. Residue.	Ref. Index 20° C. Turbidity.	Boiling Point of Fractions from 100cc.				Refractive Index and			
						1st, 25cc.	2nd, 25cc.	3rd, 25cc.	Next, 15cc.	I	II	III	
Saskatchewan— Con.	66402	0.8685	0.52	1.5020	1.4700		Initial Boiling Point.						
	66410	0.8681	0.48	1.5022	1.4701		152°						
	66412	0.8684	0.64	1.5094	1.4699		152°						
	66416	0.8696	0.48	1.5020	1.4708		152°						
	66418	0.8691	0.56	1.5100	1.4710		149°						
		Sp. gr. at 20° C.											
Alberta.....	52246	0.8599	1.60	1.4518	1.4671	152-160	-163	-171	-217	1.4648	1.4660	1.4669	
	52247	0.8652	0.32	1.5005	1.4711	156-158	-159	-160	-165	1.4689	1.4692	1.4702	
	52248	0.8548	1.76	1.4540	1.4665	152-157	-161	-167	-189	1.4646	1.4660	1.4666	
	52249	0.8652	0.36	1.4950	1.4710	154-157	-158	-160	-164	1.4689	1.4693	1.4703	
	52250	0.8652	0.36	1.4891	1.4708	155-158	-160	-163	-175	1.4682	1.4690	1.4700	
	52251	0.8658	0.36	1.4970	1.4700	152-156	-156	-158	-160	1.4683	1.4689	1.4695	
	52252	0.8733	0.56	1.4701	1.4711	152-157	-160	-166	-184	1.4696	1.4681	1.4690	
	52253	0.8624	0.48	1.4792	1.4700	154-157	-158	-160	-163	1.4683	1.4689	1.4699	
	52254	0.8669	0.32	1.5040	1.4711	154-157	-158	-159	-163	1.4690	1.4694	1.4701	
	52255	0.8535	1.60	1.4501	1.4663	155-162	-164	-170	-189	1.4649	1.4661	1.4663	
	61847	0.8684	0.48	1.5048	1.4708	153-157	-158	-160	-167	1.4684	1.4691	1.4700	
	61854	0.8648	0.72	1.5092	1.4711	154-158	-159	-160	-161	1.4693	1.4700	1.4709	
	61866	0.8654	0.40	1.5023	1.4719	154-157	-158	-159	-164	1.4690	1.4706	1.4710	
	61867	0.8681	0.48	1.5048	1.4710	153-157	-158	-160	-164	1.4686	1.4696	1.4698	
61872	0.8004	6.83	1.4246	1.4420	100-133	-152	-169	-187	1.4208	1.4305	1.4451		
Rocky Mountains.	61875	0.8520	2.32	1.4498	1.4661	154-160	-164	-169	-194	1.4639	1.4656	1.4661	
	61876	0.8695	0.36	1.5080	1.4709	153-158	-159	-160	-165	1.4681	1.4691	1.4700	
	61882	0.7972	7.84	1.4315	1.4411	145-157	-167	-179	-196	1.4371	1.4402	1.4447	
	61883	0.8682	0.52	1.4649	1.4700	150-156	-158	-162	-169	1.4629	1.4680	1.4689	
	61886	0.8780	0.32	1.4987	1.4729	153-160	-163	-167	-187	1.4680	1.4697	1.4706	
	55248	0.8676	0.24	1.5030	1.4710	152-156	-157	-159	-164	1.4687	1.4698	1.4701	
	55349	0.8542	1.68	1.4543	1.4617	153-159	-161	-166	-180	1.4651	1.4661	1.4670	
	55350	0.8643	0.84	1.4568	1.4690	150-156	-160	-164	-181	1.4630	1.4676	1.4689	
	55351	0.8567	0.76	1.4559	1.4660	147-153	-157	-159	-164	1.4579	1.4659	1.4679	
	55352	0.8667	0.30	1.4903	1.4703	153-159	-160	-162	-165	1.4669	1.4690	1.4699	
	55353	0.8284	5.48	1.4464	1.4543	147-163	-172	-191	-214	1.4453	1.4521	1.4562	
	55354	0.8651	0.24	1.5039	1.4700	154-157	-157	-157	-161	1.4684	1.4688	1.4691	
	55355	0.8668	0.54	1.4716	1.4695	148-156	-156	-160	-174	1.4620	1.4680	1.4699	
	55356	0.8340	7.00	1.4491	1.4581	147-169	-184	-205	-220	1.4442	1.4519	1.4582	
55357	0.8713	0.50	1.4722	1.4702	150-159	-162	-168	-182	1.4631	1.4680	1.4700		
Victoria.....	66790	0.8662	0.36	1.5002	1.4710	152-157	-157	-159	-164	1.4687	1.4697	1.4702	
	66792	0.8700	0.36	1.5062	1.4711	154-157	-158	-159	-164	1.4689	1.4698	1.4701	
	66793	0.8573	1.84	1.4649	1.4681	154-161	-164	-167	-181	1.4658	1.4668	1.4679	
	66795	0.8503	2.30	1.4480	1.4648	155-159	-162	-169	-184	1.4639	1.4649	1.4653	
	66797	0.8651	0.52	1.5040	1.4710	154-158	-160	-161	-167	1.4686	1.4690	1.4700	
	66799	0.8775	0.36	1.5008	1.4719	149-156	-157	-162	-184	1.4662	1.4688	1.4699	
	66801	0.8639	0.36	1.5021	1.4704	154-157	-157	-158	-160	1.4690	1.4697	1.4703	
	66803	0.8461	3.24	1.4523	1.4630	153-160	-160	-172	-187	1.4612	1.4633	1.4640	

PART II—TURPENTINE. ANALYSIS.

20 C. of Fractions Residues.			Volumes Obtained from 100cc.										Residue on Evaporation.	Iodine Number.	Flash Point.	No. of Sample.	Remarks and Opinion of the Chief Analyst.
IV	Residual 10cc.	Residual 25cc.	Under 150° C.	150° to 154°	155° to 159°	160° to 164°	165° to 169°	170° to 174°	175° to 179°	180° to 184°	185° to 189°	190° and over.					
				92									1.53	348.6		66402	
				86									2.03	329.4		66410	
				86									1.57	348.2		66412	
				87									1.98	346.7		66416	
				93									1.68	338.6		66418	
1 4670	1 4969			1 18	39	14	7	4	3	1	3			312.2	35.5	52246	Adulterated. See note on
1 4719	1 4919			64	24	2								378.2	32.5	52247	page 5.
1 4662	1 4786			1 35	28	13	5	3	1	1				314.7	35.5	52248	Adulterated. See note on
1 4717	1 4880			68	22									377.0	33.0	52249	page 5.
1 4720	1 4980			47	33	6	3	1						373.1	32.5	52250	
1 4709	1 4893			2 79	9									373.1	31.5	52251	
1 4721	1 5041			2 37	28	15	4	2	2					342.6	33.0	52252	
1 4708	1 4788			71	19									371.8	31.5	52253	
1 4713	1 4879			77	13									375.7	34.0	52254	
4668	1 4797			16	43	14	7	4	3	3				315.9		52255	Adulterated. See note on
1 4712	1 4960			1 69	17	3								387.1	33.5	61847	page 5.
1 4718	1 4839			65	25									388.6	34.5	61854	
1 4722	1 4903			83	7									387.1	34.5	61366	
1 4715	1 4894			1 68	21									376.0	33.5	61867	
1 4650	1 4889		47	8	8	7	5	5	4	3	3			60.3	5.0	61872	Adulterated. See note on
1 4653	1 4810			17	40	18	7	4	2	1	1			291.8	35.5	61875	page 5.
1 4714	1 4945			1 49	35	5								380.7	32.5	61876	" "
1 4509	1 4625		3	10	18	12	11	11	9	6	5	5		9.5	32.0	61882	" "
1 4721	1 5001			10	48	25	7							345.7	29.0	61883	" "
1 4732	1 5090			1 4	59	16	5	3	1	1				364.9	33.0	61886	
1 4719	1 4910			2 76	12									387.1	33.0	55348	
1 4668	1 4721			1 24	45	11	6	2	1					320.4	34.5	53349	
1 4702	1 4981			8 37	29	9	3	2	2					336.2	30.5	55350	
1 4697	1 4857		8	21	44	7								345.7	29.5	55351	
1 4712	1 4838			1 19	65	5								374.4	32.0	55352	
1 4692	1 4720		2	4	9	13	14	13	9	5	4	17		133.2	34.0	55353	Adulterated. See note on
1 4706	1 4827				44	6								383.9	34.0	55354	page 5.
1 4721	1 5024		3	10	56	14	4	3						345.7	29.0	55355	
1 4639	1 4788		4	5	6	6	6	7	7	8	8	33		53.9	32.0	55356	Adulterated. See note on
1 4724	1 5031			5 14	49	11	5	3	2					344.3	30.5	55357	page 5.
1 4718	1 4911			3 72	15									364.9	33.0	66790	
1 4712	1 4897				78	12								374.4	34.0	66792	
1 4672	1 4778				6 49	25	6	3	1					325.2	35.5	66793	
1 4642	1 4695				25	37	13	9	3	3				287.1	35.5	66795	Adulterated. See note on
1 4713	1 4900				39	46	5							376.0	34.0	66797	page 5.
1 4736	1 5096		2	10	58	10	4	3	2	1				350.5	31.0	66799	
1 4712	1 4822				85	5								388.6	33.5	66801	
4628	1 4662			1 10	50	9	9	5	4	2				269.7	35.5	66803	Adulterated. See note on